

Appl. No. 10/066,115
Amdt. dated 2/4/05
Reply to Office Action of 8/4/04

PATENT
Docket: 020103

REMARKS

This Amendment is responsive to the Office Action dated August 4, 2004. In this Amendment, Applicant has canceled original claims 1-46 and substituted therefor new claims 47-92.

New claims 47-92 are now pending in the present application.

Applicant respectfully requests entry of this Amendment. The new claims are believed to substantially reduce the issues under consideration.

Restriction Requirement and Provisional Election

Restriction of the originally filed claims was required. Affirmation of Applicant's election of Group I claims for examination is given.

Claims 14-21, 28-30 and 42-46 were held to belong to a non-elected group (Group II). The undersigned attorney provisionally elected the invention of Group I for examination, requesting withdrawal of the claims of Group II from consideration.

Applicant, in the present amendment, has deleted the non-elected claims and intends to pursue these in a separate divisional application.

Claim Rejection Under 35 U.S.C. § 102

Elected claims 1-13, 22-27, and 31-41 were rejected under 35 U.S.C. 102(e) as being anticipated by Faulkner. In the present amendment, the rejected claims have been canceled and new claims are presented. The new claims better set forth the invention.

Each of new independent claims 47, 81, and 86 are directed to a circuit for reducing second order nonlinear distortion (IM2) caused by jammers in a receiver. The receiver is specifically characterized as a direct downconversion type receiver architecture.

Direct conversion requires that the receiver mixers have very low IM2. This is because the output is at baseband and IM2 distortion produces low-frequency products produced by jammers that land on top of the desired baseband signal. The elimination of jammer-produced IM2 in a direct (down) conversion architecture is an important and desirable goal.

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The claimed reduction circuit operates on the receiver in a feed forward manner to remove unwanted IM2 without introducing additional distortion. The reduction circuit further operates to remove distortion right at the output of the receiver so that an IM2 reduced baseband signal appears at the output of the receiver. This output may be used to feed the input of a baseband processor or the like mobile station modem typical in wireless communication devices.

A corresponding method employed by the reduction circuit is set forth in independent claim 91.

The newly-presented independent claims add no new matter and are believed to be patentably distinct from the art of record. Furthermore, new dependent claims are introduced which set forth additional patentable features, including means for calibrating the IM2 reduction circuit to further improve operation performance resulting from factory process, temperature, and the like variations.

Faulkner fails to describe a IM2 distortion reduction in a direct down conversion receiver. Faulkner is principally directed to eliminating DC offsets, a different problem in direct downconversion. In addition, Faulkner's distortion correction circuit does not allow for ease of calibration.

One of ordinary skill in the art could not have been motivated to construct an IM2 reduction circuit based on the teachings in Faulkner. The teachings in Faulkner are clearly not analogous. For this reason, Applicant believes that its claims are all patentable and early passage to issue is respectfully requested.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

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Respectfully submitted,

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